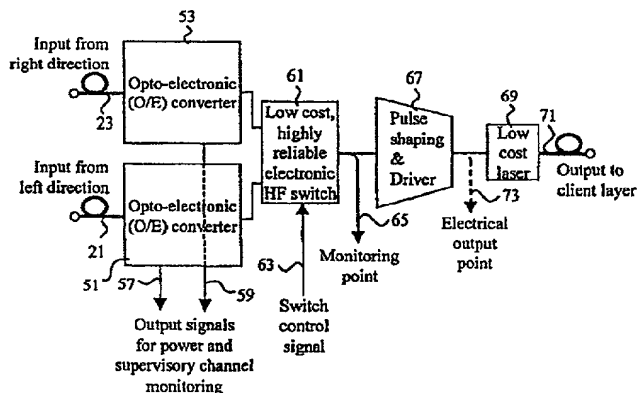




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>7</sup> : <b>H04B 10/28, H04J 14/02</b>		<b>A1</b>	(11) International Publication Number: <b>WO 00/55995</b>
			(43) International Publication Date: 21 September 2000 (21.09.00)
(21) International Application Number: PCT/SE00/00544 (22) International Filing Date: 20 March 2000 (20.03.00) (30) Priority Data: 9900991-2 18 March 1999 (18.03.99) SE (71) Applicant (for all designated States except US): QEYTON SYSTEMS AB [SE/SE]; Västberga Allé 9, S-126 30 Hägersten (SE). (72) Inventor; and (75) Inventor/Applicant (for US only): EGNELL, Lars [SE/SE]; Klubbvägen 14, S-133 37 Saltsjöbaden (SE). (74) Agents: LINDÉN, Stefan et al.; Bergenstråhle & Lindvall AB, Box 17704, S-118 93 Stockholm (SE).		(81) Designated States: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	

## (54) Title: A RECEIVER TRANSPONDER FOR PROTECTED NETWORKS



## (57) Abstract

A receiver transponder to be used in an optical add and drop multiplexer connected in short haul type networks receives light signals from two opposite directions on input fibers (21, 23). The optical input signals are converted to electrical signals by O/E converters (51, 53). The output terminals of the converters are connected to an electronic switch (61) which handles protection switching in a protected ring type network. The output of the switch can be monitored (65) before it enters a reshaping circuit (67) in which the signal is reshaped, cleansed from a supervisory channel and given a proper drive level for a following laser (69). The optical signal from the laser can travel a significant distance through a fiber (71) to a client receiver or sustain other forms of attenuation and still have a sufficient signal power for reliable detection. An electrical output signal can be provided (73) by the reshaping circuit. The converters can be used to protect for one another and to detect channel signal power and a supervisory channel at electric outputs (57, 59). The laser can be a low cost type since the laser is typically used for transmitting light over only moderate distances and the input signal is amplified and reshaped. The electric high frequency switch is generally more reliable and can be more easily monitored than a purely optical switch.